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FM EXAMINERS

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ORIGINAL

May 28, 1992

Ms. Donna R. Searcy
Secretary
Federal Communications Commission
Washington, DC 20540

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MAY 28 1992

Federal Communications Commission
Office of the Secretary

**Re: BPED-920316ME**
**8920-DHT**

Dear Ms. Searcy

Transmitted herewith, on behalf of The University Foundation, California State University, Chico, applicant for a new noncommercial station on Channel 215 at Redding, California, are the original and two copies of its response to your request for clarification by letter dated May 5, 1992. In its response, the applicant accepts the FCC record of the elevation of the site above mean sea level as 1878 meters. This change affects distances to protected and interference contours and results in a reduction of ERP to .55 KW.

Should you have any questions with respect to the above matter, please contact the undersigned.

Very truly yours,

Wayne Coy Jr.

Courtesy Copy: David Trout
(By Hand, Room 343,
w/attachments)

Federal Communications Commission
Washington, D. C. 20554

# FCC 340

Approved by OMB
3060-0034
Expires 4/30/92
See Page 23 for information regarding public burden estimat

## APPLICATION FOR CONSTRUCTION PERMIT FOR NONCOMMERCIAL EDUCATIONAL BROADCAST STATION

(Carefully read instructions before filing form) Return only form to FCC

Mar 29 2 55 PM '9

For Commission Use Only

File No.

RECEIVED
MAY 28 1992
Federal Communications Commission
Office of the Secretary

### Section I - GENERAL INFORMATION

| 1. Name of Applicant | | |
|---|---|---|
| The University Foundation<br>California State University<br>Chico | | |
| Street Address or P.O. Box<br>1 st & Normal Sts., | | |
| City<br>Chico | State<br>CA | ZIP Code<br>95929 |
| Telephone No. *(Include Area Code)*<br>(916) 898-6100 | | |

| Send notices and communications to the following person at the address below: | | |
|---|---|---|
| Name<br>Jack Brown<br>KCHO-FM | | |
| Street Address or P.O. Box<br>California State University | | |
| City<br>Chico | State<br>CA | ZIP Code<br>95929-0500 |
| Telephone No. *(Include Area Code)*<br>(916) 898-6100 | | |

2. This application is for: ☐ AM ☒ FM ☐ TV

| (a) Channel No. or Frequency | (b) Principal Community | City | State |
|---|---|---|---|
| 215 (90.9 MHZ) | | REDDING | CA |

(c) Check one of the following boxes:

☐ Application for **NEW** station

☐ **MAJOR** change in licensed facilities; call sign: .....

☐ **MINOR** change in licensed facilities; call sign: .....

☐ **MAJOR** modification of construction permit; call sign: .....

File No. of construction permit: .....

☐ **MINOR** modification of construction permit; call sign: .....

File No. of construction permit: .....

☒ **AMENDMENT** to pending application; application file number: ..... BPED-920316 ME

**NOTE:** It is not necessary to use this form to amend a previously filed application. Should you do so, however, please submit only Section I and those other portions of the form that contain the amended information.

3. Is this application mutually exclusive with a renewal application? ☐ Yes ☒ No

| If Yes, state: | Call letters | Community of License | |
|---|---|---|---|
| | | City | State |
| | | | |

**SECTION VI – EQUAL EMPLOYMENT OPPORTUNITY PROGRAM**

1. Does the applicant propose to employ five or more full-time employees? ☐ Yes ☒ No

If Yes, the applicant must include an EEO program called for in the separate Broadcast Equal Employment Opportunity Program Report (FCC 396-A).

**SECTION VII – CERTIFICATION**

1. Has or will the applicant comply with the public notice requirements of 47 C.F.R. Section 73.3580? ☒ Yes ☐ No

The APPLICANT hereby waives any claim to the use of any particular frequency as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. *(See Section 304 of the Communications Act of 1934, as amended.)*

The APPLICANT acknowledges that all the statements made in this application and attached exhibits are considered material representations, and that all exhibits are a material part hereof and incorporated herein.

The APPLICANT represents that this application is not filed for the purpose of impeding, obstructing, or delaying determination on any other application with which it may be in conflict.

In accordance with 47 C.F.R. Section 1.65, the APPLICANT has a continuing obligation to advise the Commission, through amendments, of any substantial and significant changes in information furnished.

**WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND IMPRISONMENT. U.S. CODE, TITLE 18, SECTION 1001.**

I certify that the statements in this application are true and correct to the best of my knowledge and belief, and are made in good faith.

| Name of Applicant | Title |
|---|---|
| The University Foundation<br>California State University, Chico | Secretary |
| **Signature**<br>William L. Stephens<br>William L. Stephens | **Date**<br>May 22, 1992 |

**FCC NOTICE TO INDIVIDUALS REQUIRED BY THE PRIVACY ACT AND THE PAPERWORK REDUCTION ACT**

The solicitation of personal information requested in this application is authorized by the Communications Act of 1934, as amended. The principal purpose for which the information will be used is to determine if the benefit requested is consistent with the public interest. The staff, consisting variously of attorneys, analysts, engineers and applications examiners, will use the information to determine whether the application should be granted, denied, dismissed, or designated for hearing. If all the information is not provided, the application may be returned without action having been taken upon it or its processing may be delayed while a request is made to provide the missing information. Accordingly, every effort should be made to provide all necessary information. Your response is required to obtain the requested authority.

Public reporting burden for this collection of information is estimated to vary from 76 to 80 hours with an average of 78 hours 04 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, can be sent to the Federal Communications Commission, Office of Managing Director, Washington, D.C. 20554, and to the Office of Management and Budget, Paperwork Reduction Project (3060-0034), Washington, D.C. 20503.

**THE FOREGOING NOTICE IS REQUIRED BY THE PRIVACY ACT OF 1974, P.L. 93-579, DECEMBER 31, 1974, 5 U.S.C. 552a(e)(3), AND THE PAPERWORK REDUCTION ACT OF 1980, P.L. 96-511, DECEMBER 11, 1980, 44 U.S.C. 3507.**

**AMENDMENT TO THE APPLICATION FOR**

**CONSTRUCTION PERMIT, FILE NO. BPED-920316ME,**

**NEW EDUCATIONAL FM BROADCAST STATION**

**CH 215 0.55 KW ERP H & V AT 1101 M AAT**

**THE UNIVERSITY FOUNDATION ***

**CALIFORNIA STATE UNIVERSITY AT CHICO**

**REDDING, CALIFORNIA**

**920306.1**

KESSLER AND GEHMAN ASSOCIATES, INC.

TELECOMMUNICATIONS CONSULTING ENGINEERS

KGA

507 N.W. 60th Street, Suite C
Gainesville, Florida 32607

| Section V-B - FM BROADCAST ENGINEERING DATA | FOR COMMISSION USE ONLY<br>File No. _____<br>ASB Referral Date _____<br>Referred by _____ |
|---|---|

Name of Applicant

THE UNIVERSITY FOUNDATION CALIFORNIA STATE UNIVERSITY AT CHICO

| Call letters *(if issued)* | Is this application being filed in response to a window? ☐ Yes ☒ No<br>If Yes, specify closing date: _____ |
|---|---|

Purpose of Application: *(check appropriate box(es))*

- ☒ Construct a new (main) facility
- ☐ Construct a new auxiliary facility
- ☐ Modify existing construction permit for main facility
- ☐ Modify existing construction permit for auxiliary facility
- ☐ Modify licensed main facility
- ☐ Modify licensed auxiliary facility

If purpose is to modify, indicate below the nature of change(s) and specify the file number(s) of the authorizations affected.

- ☐ Antenna supporting-structure height
- ☐ Effective radiated power
- ☐ Antenna height above average terrain
- ☐ Frequency
- ☐ Antenna location
- ☐ Class
- ☐ Main Studio location
- ☐ Other *(Summarize briefly)*

File Number(s) BPED-920316 ME

1. Allocation:

| Channel No. | Principal community to be served: City | County | State |
|---|---|---|---|
| 215 | REDDING | SHASTA | CA |

Class *(check only one box below)*

☐ A ☐ B1 ☐ B ☐ C3
☒ C2 ☐ C1 ☐ C ☐ D

2. Exact location of antenna.

(a) Specify address, city, county and state. If no address, specify distance and bearing relative to the nearest town or landmark.

ON SHASTA BALLY MOUNTAIN, 21.5 KM WEST OF REDDING, SHASTA COUNTY, CA

(b) Geographical coordinates (to nearest second). If mounted on element of an AM array, specify coordinates of center of array. Otherwise, specify tower location. Specify South Latitude or East Longitude where applicable; otherwise, North Latitude or West Longitude will be presumed.

| Latitude | 40 ° | 36 ' | 10 " | Longitude | 122 ° | 38 ' | 58 " |
|---|---|---|---|---|---|---|---|

3. Is the supporting structure the same as that of another station(s) or proposed in another pending application(s)? ☒ Yes ☐ No

If Yes, give call letter(s) or file number(s) or both. KNCQ FILE NO. BLH 851104KF

If proposal involves a change in height of an existing structure, specify existing height above ground level including antenna, all other appurtenances, and lighting, if any.

920306.1

SECTION V-B – FM BROADCAST ENGINEERING DATA (Page 2)

4. Does the application propose to correct previous site coordinates? ☐ Yes ☒ No
If Yes, list old coordinates.

| Latitude | ° | ' | " | Longitude | ° | ' | " |
|---|---|---|---|---|---|---|---|

5. Has the FAA been notified of the proposed construction? ☐ Yes ☒ No
If Yes, give date and office where notice was filed and attach as an Exhibit a copy of FAA determination, if available.

Exhibit No. DNA

Date _____ Office where filed _____

6. List all landing areas within 8 km of antenna site. Specify distance and bearing from structure to nearest point of the nearest runway.

| | Landing Area | Distance (km) | Bearing (degrees True) |
|---|---|---|---|
| (a) | NONE | | |
| (b) | | | |

7. (a) Elevation: *(to the nearest meter)*

(1) of site above mean sea level; 1878 meters

(2) of the top of supporting structure above ground (including antenna, all other appurtenances, and lighting, if any); and 53 meters

(3) of the top of supporting structure above mean sea level [(a)(1) + (a)(2)] 1931 meters

(b) Height of radiation center: *(to the nearest meter)* H = Horizontal; V = Vertical

(1) above ground 46 meters (H)

46 meters (V)

(2) above mean sea level [(a)(1) + (b)(1)] 1924 meters (H)

1924 meters (V)

(3) above average terrain 1101 meters (H)

1101 meters (V)

8. Attach as an Exhibit sketch(es) of the supporting structure, labelling all elevations required in Question 7 above, except item 7(b)(3). If mounted on an AM directional-array element, specify heights and orientations of all array towers, as well as location of FM radiator.

Exhibit No. *Fig. 2

9. Effective Radiated Power:
(a) ERP in the horizontal plane 0.55 kw (H*) 0.55 kw (V*)

(b) Is beam tilt proposed? ☐ Yes ☒ No

If Yes, specify maximum ERP in the plane of the tilted beam, and attach as an Exhibit a vertical elevational plot of radiated field.

Exhibit No. DNA

_____ kw (H*) _____ kw (V*)

*Polarization

*SEE ATTACHED ENGINEERING STATEMENT
920306.1

10. Is a directional antenna proposed? ☐ Yes ☒ No

If Yes, attach as an Exhibit a statement with all data specified in 47 C.F.R. Section 73.316, including plot(s) and tabulations of horizontally and vertically polarized radiated components in terms of relative field. Exhibit No. DNA

11. Will the main studio be located within the 70 dBu or 3.16 mV/m contour? ☒ Yes ☐ No

If No, attach as an Exhibit justification pursuant to 47 C.F.R. Section 73.1125. Exhibit No. DNA

12. Are there: (a) within 60 meters of the proposed antenna, any proposed or authorized FM or TV transmitters, or any nonbroadcast *(except citizens band or amateur)* radio stations; or (b) within the blanketing contour, any established commercial or government receiving stations, cable head-end facilities, or populated areas; or (c) within ten (10) kilometers of the proposed antenna, any proposed or authorized FM or TV transmitters which may produce receiver-induced intermodulation interference? ☒ Yes ☐ No

If Yes, attach as an Exhibit a description of any expected, undesired effects of operations and remedial steps to be pursued if necessary, and a statement accepting full responsibility for the elimination of any objectionable interference (including that caused by receiver-induced or other types of modulation) to facilities in existence or authorized or to radio receivers in use prior to grant of this application. *(See 47 C.F.R. Sections 73.315(b), 73.316(d) and 73.318.)* Exhibit No. *

13. Attach as an Exhibit a 7.5 minute series U.S. Geological Survey topographic quadrangle map that shows clearly, legibly, and accurately, the location of the proposed transmitting antenna. This map must comply with the requirements set forth in Instruction D for Section V. Further, the map must clearly and legibly display the original printed contour lines and data as well as latitude and longitude markings, and must bear a scale of distance in kilometers. Exhibit No. *Fig. 3

14. Attach as an Exhibit *(name the source)* a map which shows clearly, legibly, and accurately, and with the original printed latitude and longitude markings and a scale of distance in kilometers: Exhibit No. *Fig. 4

(a) the proposed transmitter location, and the radials along with profile graphs have been prepared;

(b) the 1 mV/m predicted contour and, for noncommercial educational applicants applying on a commercial channel, the 3.16 mV/m contour; and

(c) the legal boundaries of the principal community to be served.

15. Specify area in square kilometers (1 sq. mi. = 2.59 sq. km.) and population (latest census) within the predicted 1 mV/m contour.

Area 8,191 sq. km. Population 147,625

16. Attach as an Exhibit a map *(Sectional Aeronautical charts where obtainable)* showing the present and proposed 1 mV/m (60 dbu) contours. Exhibit No. DNA

Enter the following from Exhibit above: Gain Area _____ sq. mi.
Loss Area _____ sq. mi.

Percent change (gain area plus loss area as percentage of present area) _____ %.
If 50% or more this constitutes a major change. Indicate in question 2(c), Section I, accordingly.

920306.1 *SEE ATTACHED ENGINEERING STATEMENT

17. For an application involving an auxiliary facility only, attach as an Exhibit a map *(Sectional Aeronautical Chart or equivalent)* that shows clearly, legibly, and accurately, and with latitude and longitude markings and a scale of distance in kilometers:

Exhibit No. DNA

(a) the proposed auxiliary 1 mV/m contour; and

(b) the 1 mV/m contour of the licensed main facility for which the applied-for facility will be auxiliary. Also specify the file number of the license. See 47 C.F.R. Section 73.1675. (File No.:_____)

18. Terrain and coverage data *(to be calculated in accordance with 47 C.F.R. Section 73.313).*

Source of terrain data: *(check only one box below)*

☐ Linearly interpolated 30-second database ☐ 7.5 minute topographic map

(Source: _____)

☒ Other *(briefly summarize)* **LINEARLY INTERPOLATED THREE ARC SECOND TERRAIN DATA BASE OF THE DEFENSE MAPPING AGENCY**

| Radial bearing (degrees True) | Height of radiation center above average elevation of radial from 3 to 16 km (meters) | Predicted Distances to the 1 mV/m contour (kilometers) |
|---|---|---|
| 0 | 1251 | 54.0 |
| 45 | 1247 | 53.9 |
| 90 | 1465 | 56.5 |
| 135 | 1228 | 53.7 |
| 180 | 1136 | 52.4 |
| 225 | 657 | 41.0 |
| 270 | 851 | 46.8 |
| 315 | 975 | 49.5 |

**Allocation Studies**

*(See Subpart C of 47 C.F.R. Part 73)*

19. Is the proposed antenna location within 320 kilometers (199 miles) of the common border between the United States and Mexico? ☐ Yes ☒ No

If Yes, attach as an Exhibit a showing of compliance with all provisions of the Agreement between the United States of America and the United Mexican States concerning Frequency Modulation Broadcasting in the 88 to 108 MHz band.

Exhibit No. DNA

920306.1

20. Is the proposed antenna location within 320 kilometers of the common border between the United States and Canada? ☐ Yes ☒ No

If Yes, attach as an Exhibit a showing of compliance with all provisions of the Working Agreement for Allocation of FM Broadcasting Stations on Channels 201-300 under The Canada-United States FM Agreement of 1947. Exhibit No. DNA

21. If the proposed operation is for a channel in the range from channel 201 through 220 (88.1 through 91.9 MHz), or if this proposed operation is for a class D station in the range from Channel 221 through 300 (92.1 through 107.9 MHz), attach as an Exhibit a complete allocation study to establish the lack of prohibited overlap of contours with other U.S. stations. The allocation study should include the following: Exhibit No. *Fig. 5

(a) The normally protected interference-free and the interfering contours for the proposed operation along all azimuths.
(b) Complete normally protected interference-free contours of all other proposals and existing stations to which objectionable interference would be caused.
(c) Interfering contours over pertinent arcs of all other proposals and existing stations from which objectionable interference would be received.
(d) Normally protected and interfering contours over pertinent arcs, of all other proposals and existing stations, which require study to show the absence of objectionable interference.
(e) Plot of the transmitter location of each station or proposal requiring investigation, with identifying call letters, file numbers and operating or proposed facilities.
(f) When necessary to show more detail, an additional allocation study will be attached utilizing a map with a larger scale to clearly show interference or absence thereof.
(g) A scale of kilometers and properly labeled longitude and latitude lines, shown across the entire Exhibit(s). Sufficient lines should be shown so that the location of the sites may be verified.
(h) The name of the map(s) used in the Exhibit(s).

22. With regard to any stations separated by 53 or 54 channels (10.6 or 10.8 MHz) attach as an Exhibit information required in 1/ *(separation requirements involving intermediate frequency (i.f.) interference)*. Exhibit No. *

23.(a) Is the proposed operation on Channel 218, 219, or 220? ☐ Yes ☒ No

(b) If the answer to (a) is yes, does the proposed operation satisfy the requirements of 47 C.F.R. Section 73.207? ☐ Yes ☐ No DNA

(c) If the answer to (b) is yes, attach as an Exhibit information required in 1/ regarding separation requirements with respect to stations on Channels 221, 222 and 223. Exhibit No. DNA

(d) If the answer to (b) is no, attach as an Exhibit a statement describing the short spacing(s) and how it or they arose. Exhibit No. DNA

1/ A showing that the proposed operation meets the minimum distance separation requirements. Include existing stations, proposed stations, and cities which appear in the Table of Allotments; the location and geographic coordinates of each antenna, proposed antenna or reference point, as appropriate; and distance to each from proposed antenna location.

*SEE ATTACHED ENGINEERING STATEMENT

920306.1

**SECTION V-B – FM BROADCAST ENGINEERING DATA (Page 6)**

(e) If authorization pursuant to 47 C.F.R. Section 73.215 is requested, attach as an Exhibit a complete engineering study to establish the lack of prohibited overlap of contours involving affected stations. The engineering study must include the following:

Exhibit No. DNA

(1) Protected and interfering contours, in all directions (360°), for the proposed operation.
(2) Protected and interfering contours, over pertinent arcs, of all short-spaced assignments, applications and allotments, including a plot showing each transmitter location, with identifying call letters or file numbers, and indication of whether facility is operating or proposed. For vacant allotments, use the reference coordinates as transmitter location.
(3) When necessary to show more detail, an additional allocation study utilizing a map with a larger scale to clearly show prohibited overlap will not occur.
(4) A scale of kilometers and properly labeled longitude and latitude lines, shown across the entire exhibit(s). Sufficient lines should be shown so that the location of the sites may be verified.
(5) The official title(s) of the map(s) used in the exhibits(s).

24. Is the proposed station for a channel in the range from Channel 201 to 220 (88.1 through 91.9 MHz) and the proposed antenna location within the distance to an affected TV Channel 6 station(s) as defined in 47 C.F.R. Section 73.525?

[X] Yes [ ] No

If Yes, attach as an Exhibit either a TV Channel 6 agreement letter dated and signed by both parties or a map and an engineering statement with calculations demonstrating compliance with 47 C.F.R. Section 73.525 for each affected TV Channel 6 station.

Exhibit No. *Fig. 6

25. Is the proposed station for a channel in the range from Channel 221 to 300 (92.1-107.9 MHz)?

[ ] Yes [X] No

If Yes, attach as an Exhibit information required in 1/. *(Except for Class B (secondary) proposals.)*

Exhibit No. DNA

26. Environmental Statement *(See 47 C.F.R. Section 1.1301 et seq.)*

Would a Commission grant of this application come within Section 1.1307 of the FCC Rules, such that it may have a significant environmental impact?

[ ] Yes [X] No

If you answer Yes, submit as an Exhibit an Environmental Assessment required by Section 1.1311.

Exhibit No. DNA

If No, explain briefly why not.

THE PROVISIONS OF SECTION 1.1307 DO NOT CLASSIFY THE PROPOSED CONSTRUCTION AS HAVING A SIGNIFICANT ENVIRONMENTAL IMPACT.

**CERTIFICATION**

I certify that I have prepared this Section of this application on behalf of the applicant, and that after such preparation, I have examined the foregoing and found it to be accurate and true to the best of my knowledge and belief.

| Name *(Typed or Printed)* | Relationship to Applicant *(e.g., Consulting Engineer)* |
|---|---|
| KEITH G. BLANTON | CONSULTING ENGINEER |
| Signature<br>Keith G. Blanton | Address *(Include ZIP Code)*<br>KESSLER AND GEHMAN ASSOCIATES, INC.<br>507 NW 60th STREE, #C<br>GAINESVILLE., FL 32607 |
| Date<br>May 19, 1992 | Telephone No. *(Include Area Code)*<br>( 904 ) 332-3157 |

*SEE ATTACHED ENGINEERING STATEMENT

**ENGINEERING STATEMENT OF KEITH G. BLANTON OF THE FIRM OF KESSLER AND GEHMAN ASSOCIATES, INC.,CONSULTING ENGINEERS, IN CONNECTION WITH AN AMENDMENT TO THE APPLICATION OF THE UNIVERSITY FOUNDATION CALIFORNIA STATE UNIVERSITY AT CHICO FOR A CONSTRUCTION PERMIT FOR A NEW FM BROADCAST STATION WHICH WOULD OPERATE ON CHANNEL 215 WITH AN EFFECTIVE RADIATED POWER OF 0.55 KILOWATTS HORIZONTALLY AND VERTICALLY POLARIZED AT AN EFFECTIVE ANTENNA HEIGHT OF 1101 METERS ABOVE AVERAGE TERRAIN IN THE VICINITY OF REDDING, CALIFORNIA**

I, Keith G. Blanton, am an associate of Kessler and Gehman Associates, Inc., with offices in Gainesville, Florida. I have been working in the field of radio and television consulting engineering since 1961. I graduated from Duke University in 1951 with a Bachelor of Science degree in Physics.

This firm has been employed by The University Foundation California State University at Chico to make engineering studies and to prepare the engineering portion of an amendment to the application for construction permit, File No. BPED-920316ME, for a new Frequency Modulation Broadcast Station which would operate on channel 215 with an effective radiated power of 0.55 kilowatts horizontally and vertically polarized at an effective antenna height of 1101 meters above average terrain in the vicinity of Redding, California. This amendment was prepared in response to an FCC letter dated May 5, 1992, Ref. 8920-DHT, in which it was indicated that the ground elevation at the proposed transmitter site was 1878 meters above mean sea level.

## ATTACHED FIGURES

In carrying out the engineering studies, the following attached figures were prepared by me or under my supervision:

1. Proposed engineering specifications.
2. Elevation drawing of the antenna system.
3. USGS 7.5 minute topographic quadrangle showing the transmitter site and coordinate lines.
4. Map showing the proposed 60 dBu contour.
5. Allocation studies
6. Map showing the lack of interference to KVIQ channel 6.

## PROPOSED OPERATION

It is proposed to utilize a type accepted transmitter which in conjunction with a 2 bay circularly polarized antenna and 50 meters of 1-5/8 inch air dielectric transmission line will produce an effective radiated power of 0.55 kW horizontally and vertically polarized as shown in Figure 1.

## PROPOSED TRANSMITTER LOCATION

It is proposed to side-mount a two bay FM antenna on an existing 53 meter tower on Shasta Bally Mountain 21.5 kM west of Redding. This tower supports the antenna of FM station KNCQ(FM) and is located 180 feet northwest of another tower supporting the antennas of KRCR-TV channel 7, KIXE-TV channel 9 and FM translator station K204AA. The FAA has not been notified of the proposed construction. There are no other FM or TV transmitters within 60 meters of the proposed site. The blanketing contour of the proposed facility will extend 0.29 kM from the site which is located in a sparsely populated area. The applicant will accept full responsibility for the elimination of interference (including that caused by receiver induced or other types of modulation) to facilities in existence, facilities authorized, and radio receivers in use prior to grant of this application.

The proposed operation on channel 215 will create a power density of less than 0.02 $mw/cm^2$ at a distance of 46 meters from the antenna which is the closest distance to the ground. The licensed operation of KNCQ(FM), K204AA, KRCR-TV, and KIXE-TV will create a power density on the ground of less than 0.37 $mw/cm^2$ so that the operation of the proposed channel 215 station would raise the power density from 0.37 $mw/cm^2$ to 0.39 $mw/cm^2$ well below the maximum permitted value of 1.0 $mw/cm^2$ established by ANSI. In addition the area about the tower is fenced with a locked gate with warning signs posted along the fence, at the gate and at the base of the tower. In order to protect maintenance workers the power into the antenna will be cut off when workers are on the tower.

## ALLOCATION CONSIDERATIONS

The proposed operation on channel 215 will not cause prohibited contour overlap with either KSKY ch 215C1 at Klamath Falls, OR, KMUD ch 216C3 at Garberville, CA or KIBC ch 213C3 at Burney, CA as shown on the maps Figure 5. These are the nearest cochannel or adjacent channel stations limiting the operation of the proposed station. It is pointed out that the contours shown on the maps were calculated and plotted using the 3 arc second terrain data base of the Defense Mapping Agency at 1° increments of horizontal azimuth in the case of the map Figure 5B and at 5° increments in the case of the map Figure 5A. Since the FCC staff does not have access to the more accurate 3 second terrain data used in projecting these contours Figure 5C is included in which the terrain data and distances to contours used in preparing the detailed map Figure 5B are tabulated. The maps were plotted by a computer driven Cal Comp Model 1023 x - y pen plotter using a software computer program "CVR" obtained from EDX Engineering Inc. of Eugene, OR.

The proposed site will meet the separation requirements involving IF interference. The nearest channel 268 or 269 station is KEKA-FM on channel 268C at Eureka, CA. at N. Latitude 40° 25′ 12" W. Longitude 124° 05′ 00", 123.2 kM from the proposed site where a minimum separation of 35.0 kM is required.

The only channel 6 TV station within 180 kM of the proposed channel 215 site at Redding is KVIQ(TV) at Eureka, CA 112.6 kM west of the proposed site and according to Table A in Section 73.525 (a)(1) of the FCC Rules is an affected station. Although the applicant has an agreement with KVIQ that they would accept any interference caused to KVIQ by the operation of the proposed station it is clearly shown on the map Figure 6 calculated in accordance with Section 73.525 that no objectionable interference would be caused within the KVIQ Grade B contour.

## AREA AND POPULATION ANALYSIS

The area within the proposed 1 mV/m contour was determined by the computer in determining the distances to the contour. The population served by the proposed 1 mV/m contour was determined by

using 1990 census data and a computer program that adds the populations of all census blocks whose centroid falls within the contour. The area and population served by the proposed 1 mV/m contour are 8,191 square kilometers and 147,625 persons respectively.

KESSLER AND GEHMAN ASSOCIATES, INC.

Keith D. Blanton

May 19, 1992

Keith G. Blanton, Consultant

THE UNIVERSITY FOUNDATION
REDDING, CALIFORNIA

## ENGINEERING SPECIFICATIONS

### A. Transmitter Site

Geographic coordinates determined from KNCQ(FM) license:

| | |
|---|---|
| North Latitude | 40°36'10" |
| West Longitude | 122°38'58" |

Street Address

On Shasta Bally Mountain, 21.5 kM W of Redding, Shasta County, CA

### B. Proposed Facility

| | | |
|---|---|---|
| Channel | Number | 215 |
| | Frequency | 90.9 MHz |

### C. Antenna Height

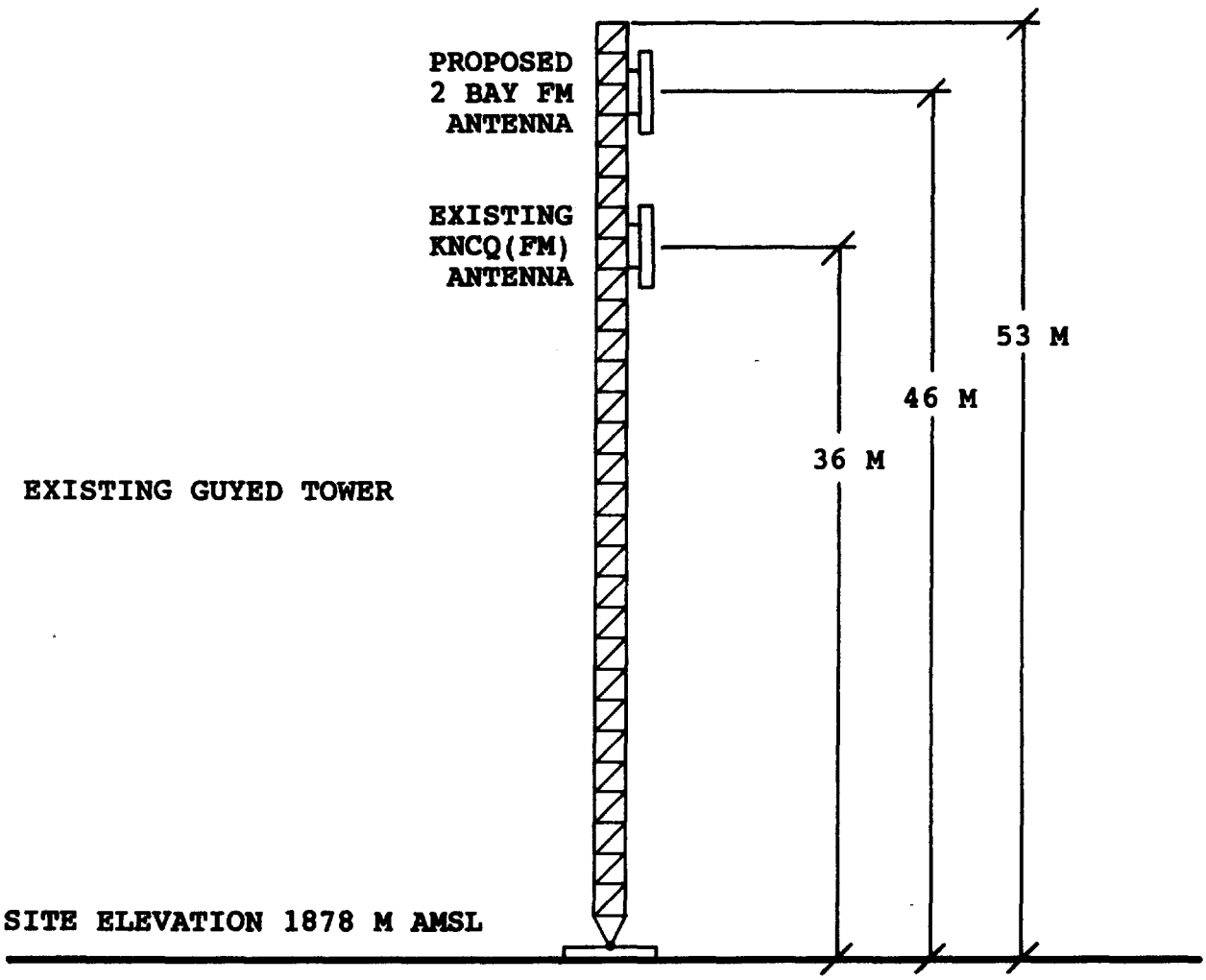
| | |
|---|---|
| Height of site above mean sea level | 1878 Meters |
| Overall height of structure above ground (including all appurtenances) | 53 Meters |
| Overall height of structure above mean sea level (including all appurtenances) | 1931 Meters |
| Height of site above average terrain | 1055 Meters |
| Effective height of antenna above ground | 46 Meters |
| Effective height of antenna above average terrain | 1101 Meters |
| Effective height of antenna above mean sea level | 1924 Meters |

### D. Proposed Operation

| | |
|---|---|
| Transmitter power output | 0.60 kW |
| Transmission line efficiency | 0.924 |
| Input to antenna | 0.55 kW |

| | Horizontal | Vertical |
|---|---|---|
| Antenna power gain | 1.0 | 1.0 |
| Effective radiated power | 0.55 kW | 0.55 kW |

## ELEVATION VIEW




| | |
|---|---|
| OVERALL HEIGHT, AGL | 53 M |
| OVERALL HEIGHT, AMSL | 1931 M |
| RADIATION CENTER, AGL | 46 M |
| RADIATION CENTER, AMSL | 1924 M |

COORDINATES:
N. LATITUDE 40° 36′ 10"
W. LONGITUDE 122° 38′ 58"

NOTE: NOT TO SCALE

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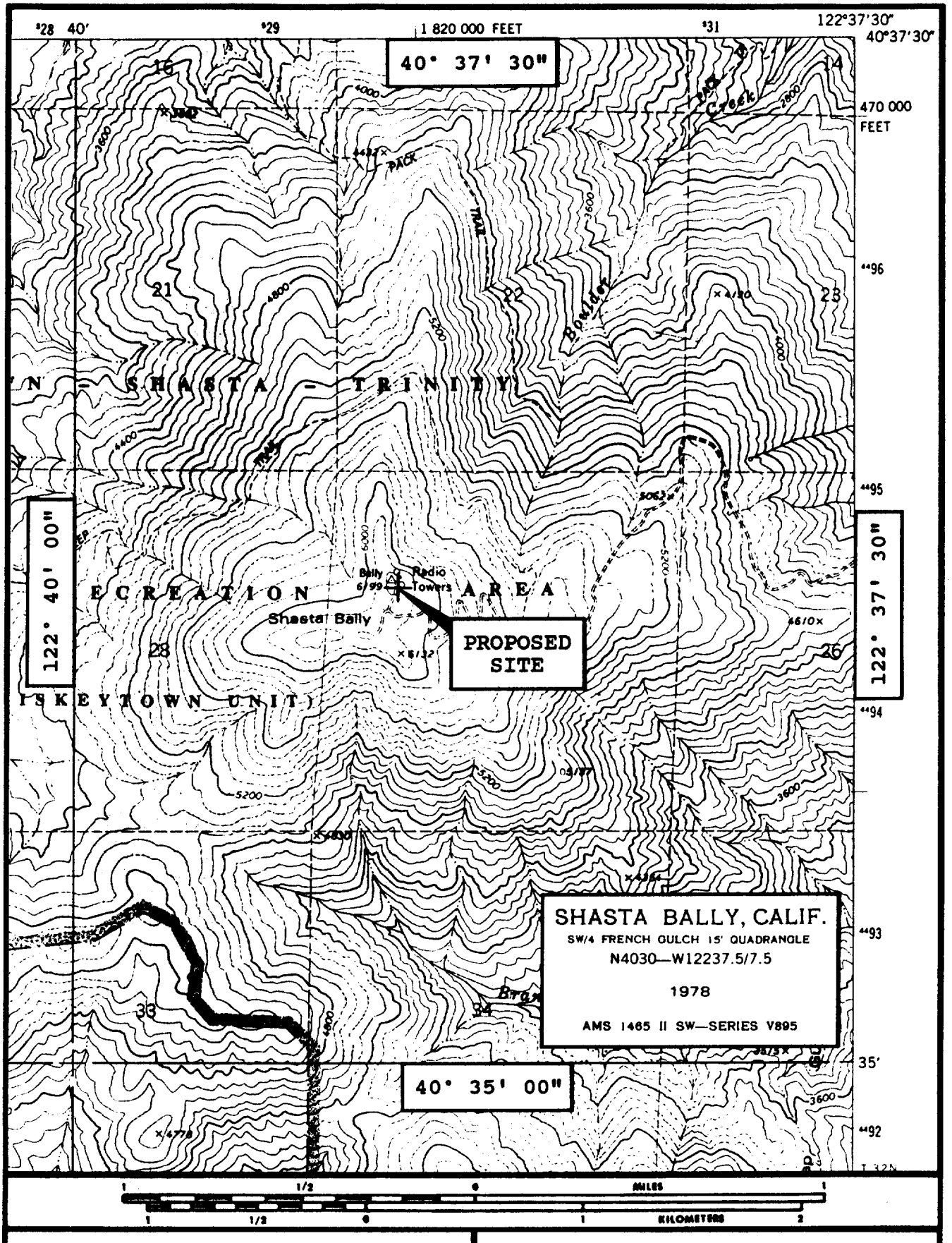
THE UNIVERSITY FOUNDATION
REDDING, CALIFORNIA
920306.1 FIGURE 2

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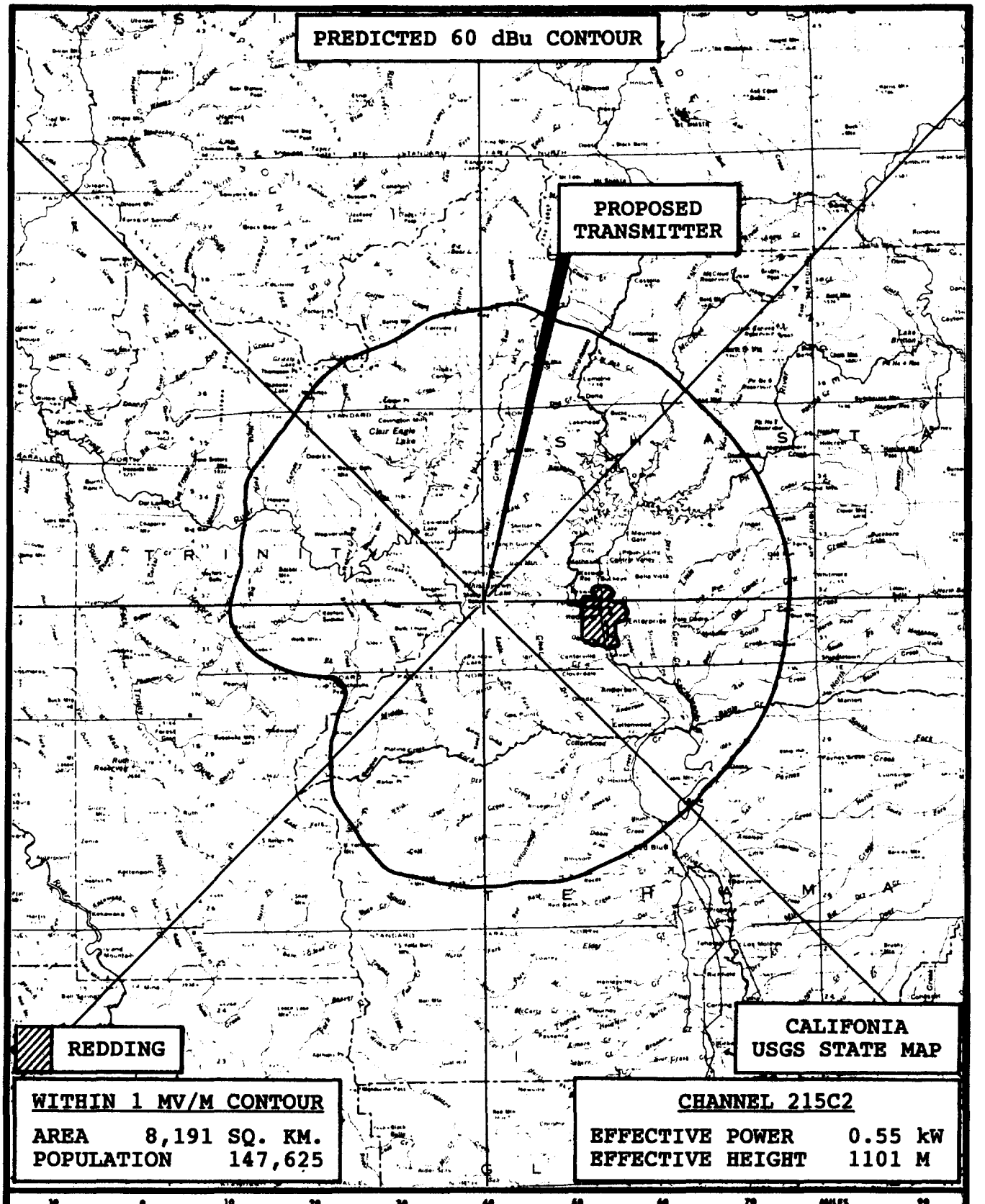
**THE UNIVERSITY FOUNDATION**
**REDDING, CALIFORNIA**
**920603** **FIGURE 3**

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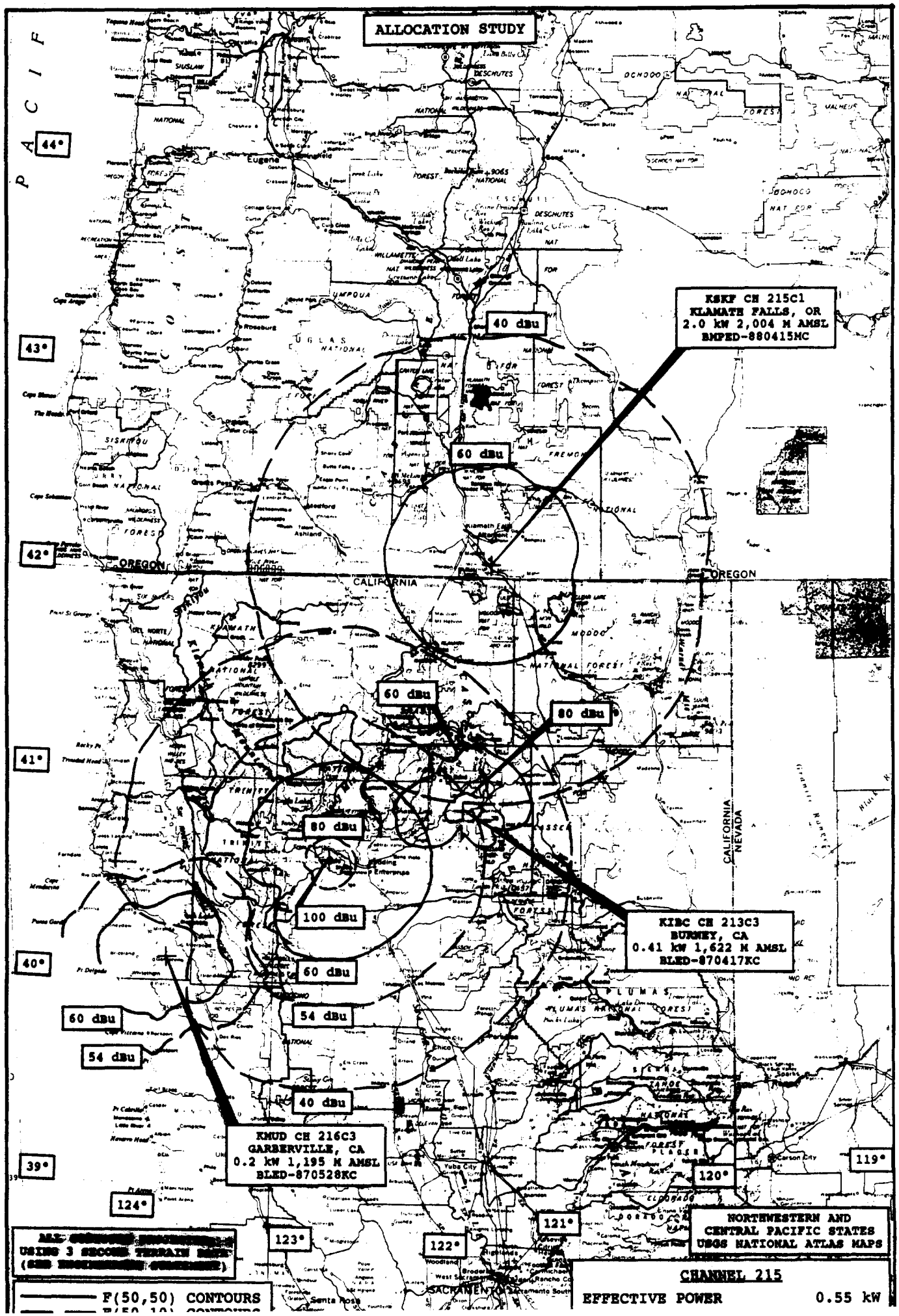
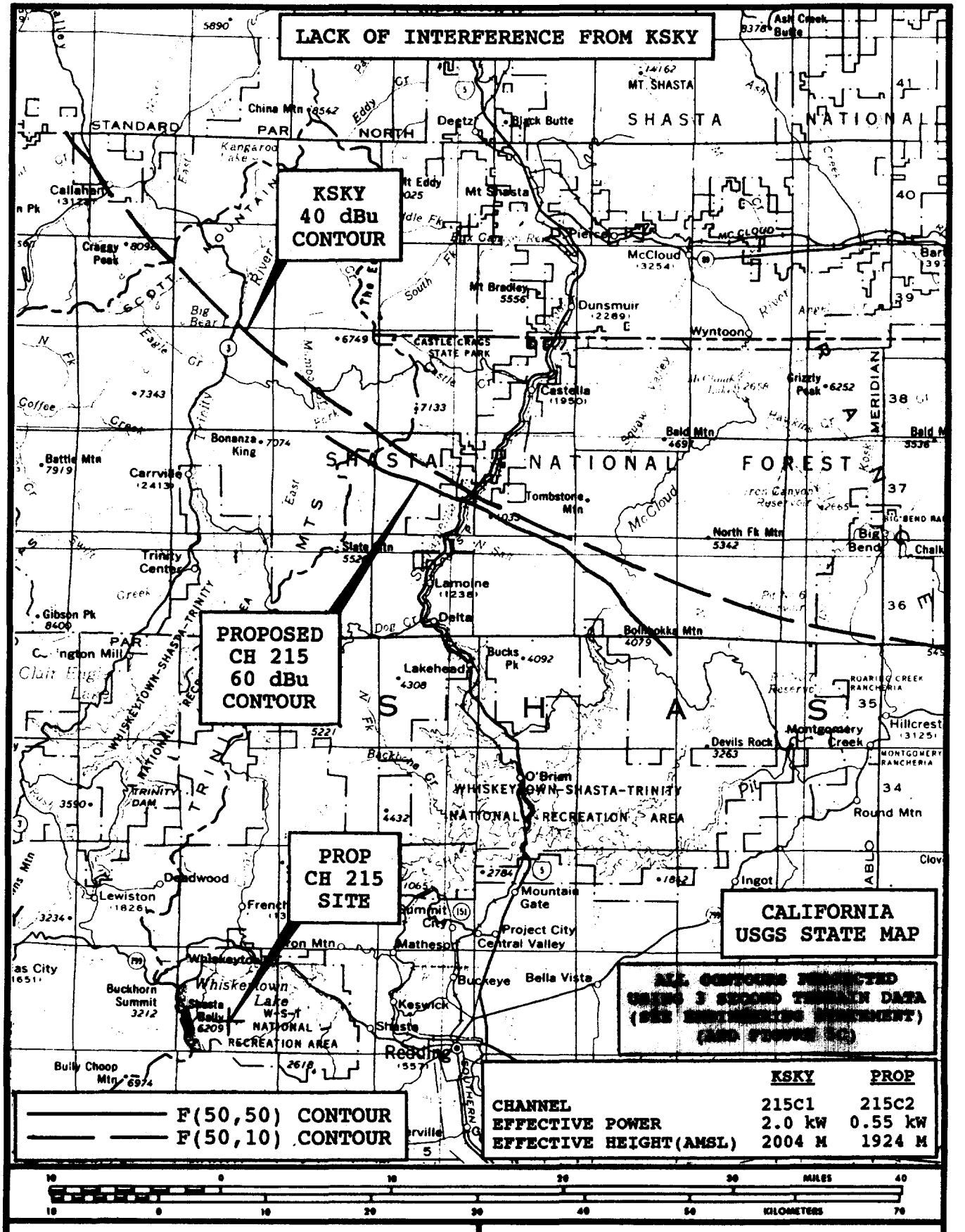
REDDING, CALIFORNIA
920306.1 FIGURE 4


ALLOCATION STUDY
KSKF CH 215C1
KLAMATH FALLS, OR
2.0 kW 2,004 M AMSL
BMPED-880415MC
KIBC CH 213C3
BURNEY, CA
0.41 kW 1,622 M AMSL
BLED-870417KC
KMUD CH 216C3
GARBERVILLE, CA
0.2 kW 1,195 M AMSL
BLED-870528KC
40 dBu
60 dBu
80 dBu
100 dBu
54 dBu
OREGON
CALIFORNIA
NEVADA
44°
43°
42°
41°
40°
39°
124°
123°
122°
121°
120°
119°
NORTHWESTERN AND
CENTRAL PACIFIC STATES
USGS NATIONAL ATLAS MAPS
USING 3 SECOND TERRAIN
F(50,50) CONTOURS
CHANNEL 215
EFFECTIVE POWER 0.55 kW

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REDDING, CALIFORNIA
920306.1 FIGURE 5B

THE UNIVERSITY FOUNDATION

REDDING, CALIFORNIA

PROPOSED NEW CH 215C2 REDDING, CA 3 SECOND TERRAIN DATA
FILE NO. BPED-920316ME N. LAT. 40° 36′ 10" W. LON. 122° 38′ 58"

| AZIM | DIST-DM | AVE TER-M |
|---|---|---|
| 10.0 | 16.0 | 579.3 |
| 11.0 | 16.0 | 608.0 |
| 12.0 | 16.0 | 636.9 |
| 13.0 | 16.0 | 655.4 |
| 14.0 | 16.0 | 681.9 |
| 15.0 | 16.0 | 702.1 |
| 16.0 | 16.0 | 705.8 |
| 17.0 | 16.0 | 703.3 |
| 18.0 | 16.0 | 698.9 |
| 19.0 | 16.0 | 695.9 |
| 20.0 | 16.0 | 699.2 |
| 21.0 | 16.0 | 709.2 |
| 22.0 | 16.0 | 708.9 |
| 23.0 | 16.0 | 709.1 |
| 24.0 | 16.0 | 697.3 |
| 25.0 | 16.0 | 687.6 |
| 26.0 | 16.0 | 690.7 |
| 27.0 | 16.0 | 698.2 |
| 28.0 | 16.0 | 711.7 |
| 29.0 | 16.0 | 712.9 |
| 30.0 | 16.0 | 708.8 |
| 31.0 | 16.0 | 696.0 |
| 32.0 | 16.0 | 679.5 |
| 33.0 | 16.0 | 664.8 |
| 34.0 | 16.0 | 649.8 |
| 35.0 | 16.0 | 643.9 |
| 36.0 | 16.0 | 650.7 |
| 37.0 | 16.0 | 658.9 |
| 38.0 | 16.0 | 665.1 |
| 39.0 | 16.0 | 663.5 |
| 40.0 | 16.0 | 652.3 |
| 41.0 | 16.0 | 643.7 |
| 42.0 | 16.0 | 648.5 |
| 43.0 | 16.0 | 658.0 |
| 44.0 | 16.0 | 669.6 |
| 45.0 | 16.0 | 677.3 |
| 46.0 | 16.0 | 677.0 |
| 47.0 | 16.0 | 669.3 |
| 48.0 | 16.0 | 668.2 |
| 49.0 | 16.0 | 662.8 |
| 50.0 | 16.0 | 661.9 |

THE UNIVERSITY FOUNDATION

REDDING, CALIFORNIA

NEW CH 215C2 REDDING, CA PROPOSED OPERATION
FILE NO. BPED-920316ME 0.55 KW ERP ND AT 1924 METERS AMSL

DISTANCES TO CONTOURS (Kilometers): USING 3 SECOND TERRAIN DATA

Frequency: 90.9000 MHz
Coordinates: N 40 36 10 W 122 38 58
F(50,10) Curves Number of Contours: 1

| AZ (degs) | HAAT (m) | ERP (kW) | 40.0 (dBu) | AZ (degs) | HAAT (m) | ERP (kW) | 40.0 (dBu) |
|---|---|---|---|---|---|---|---|
| 10.0 | 1345 | .5500 | 129.6 | 44.0 | 1254 | .5500 | 127.5 |
| 11.0 | 1316 | .5500 | 128.9 | 45.0 | 1247 | .5500 | 127.3 |
| 12.0 | 1287 | .5500 | 128.2 | 46.0 | 1247 | .5500 | 127.3 |
| 13.0 | 1269 | .5500 | 127.8 | 47.0 | 1255 | .5500 | 127.5 |
| 14.0 | 1242 | .5500 | 127.2 | 48.0 | 1256 | .5500 | 127.5 |
| 15.0 | 1222 | .5500 | 126.8 | 49.0 | 1261 | .5500 | 127.6 |
| 16.0 | 1218 | .5500 | 126.7 | 50.0 | 1262 | .5500 | 127.7 |
| 17.0 | 1221 | .5500 | 126.7 | | | | |
| 18.0 | 1225 | .5500 | 126.8 | | | | |
| 19.0 | 1228 | .5500 | 126.9 | | | | |
| 20.0 | 1225 | .5500 | 126.8 | | | | |
| 21.0 | 1215 | .5500 | 126.6 | | | | |
| 22.0 | 1215 | .5500 | 126.6 | | | | |
| 23.0 | 1215 | .5500 | 126.6 | | | | |
| 24.0 | 1227 | .5500 | 126.9 | | | | |
| 25.0 | 1236 | .5500 | 127.1 | | | | |
| 26.0 | 1233 | .5500 | 127.0 | | | | |
| 27.0 | 1226 | .5500 | 126.8 | | | | |
| 28.0 | 1212 | .5500 | 126.5 | | | | |
| 29.0 | 1211 | .5500 | 126.5 | | | | |
| 30.0 | 1215 | .5500 | 126.6 | | | | |
| 31.0 | 1228 | .5500 | 126.9 | | | | |
| 32.0 | 1244 | .5500 | 127.3 | | | | |
| 33.0 | 1259 | .5500 | 127.6 | | | | |
| 34.0 | 1274 | .5500 | 127.9 | | | | |
| 35.0 | 1280 | .5500 | 128.1 | | | | |
| 36.0 | 1273 | .5500 | 127.9 | | | | |
| 37.0 | 1265 | .5500 | 127.7 | | | | |
| 38.0 | 1259 | .5500 | 127.6 | | | | |
| 39.0 | 1261 | .5500 | 127.6 | | | | |
| 40.0 | 1272 | .5500 | 127.9 | | | | |
| 41.0 | 1280 | .5500 | 128.1 | | | | |
| 42.0 | 1275 | .5500 | 128.0 | | | | |
| 43.0 | 1266 | .5500 | 127.8 | | | | |

THE UNIVERSITY FOUNDATION

REDDING, CALIFORNIA

AUTHORIZED KSKF CH 215C1 KLAMATH FALLS, OR 3 SECOND TERRAIN DATA
FILE NO. BMPED-880415MC N. LAT. 42° 05′ 50" W. LON. 121° 37′ 59"

| AZIM | DIST-KM | AVE TER-M | AZIM | DIST-KM | AVE TER-M |
|---|---|---|---|---|---|
| 180.0 | 16.0 | 1268.2 | 232.0 | 16.0 | 1298.6 |
| 181.0 | 16.0 | 1269.7 | 233.0 | 16.0 | 1300.4 |
| 182.0 | 16.0 | 1269.9 | 234.0 | 16.0 | 1301.1 |
| 183.0 | 16.0 | 1271.0 | 235.0 | 16.0 | 1301.1 |
| 184.0 | 16.0 | 1270.9 | 236.0 | 16.0 | 1300.8 |
| 185.0 | 16.0 | 1271.1 | 237.0 | 16.0 | 1300.5 |
| 186.0 | 16.0 | 1271.6 | 238.0 | 16.0 | 1300.1 |
| 187.0 | 16.0 | 1270.9 | 239.0 | 16.0 | 1299.7 |
| 188.0 | 16.0 | 1271.1 | 240.0 | 16.0 | 1299.0 |
| 189.0 | 16.0 | 1271.5 | | | |
| 190.0 | 16.0 | 1270.3 | | | |
| 191.0 | 16.0 | 1269.1 | | | |
| 192.0 | 16.0 | 1267.3 | | | |
| 193.0 | 16.0 | 1265.9 | | | |
| 194.0 | 16.0 | 1266.0 | | | |
| 195.0 | 16.0 | 1267.5 | | | |
| 196.0 | 16.0 | 1267.9 | | | |
| 197.0 | 16.0 | 1268.0 | | | |
| 198.0 | 16.0 | 1268.3 | | | |
| 199.0 | 16.0 | 1269.4 | | | |
| 200.0 | 16.0 | 1271.6 | | | |
| 201.0 | 16.0 | 1272.6 | | | |
| 202.0 | 16.0 | 1271.8 | | | |
| 203.0 | 16.0 | 1270.1 | | | |
| 204.0 | 16.0 | 1268.1 | | | |
| 205.0 | 16.0 | 1266.7 | | | |
| 206.0 | 16.0 | 1265.5 | | | |
| 207.0 | 16.0 | 1265.0 | | | |
| 208.0 | 16.0 | 1265.2 | | | |
| 209.0 | 16.0 | 1265.8 | | | |
| 210.0 | 16.0 | 1266.4 | | | |
| 211.0 | 16.0 | 1267.5 | | | |
| 212.0 | 16.0 | 1268.4 | | | |
| 213.0 | 16.0 | 1268.8 | | | |
| 214.0 | 16.0 | 1269.0 | | | |
| 215.0 | 16.0 | 1268.8 | | | |
| 216.0 | 16.0 | 1268.6 | | | |
| 217.0 | 16.0 | 1268.6 | | | |
| 218.0 | 16.0 | 1270.0 | | | |
| 219.0 | 16.0 | 1271.2 | | | |
| 220.0 | 16.0 | 1272.1 | | | |
| 221.0 | 16.0 | 1273.3 | | | |
| 222.0 | 16.0 | 1274.3 | | | |
| 223.0 | 16.0 | 1275.7 | | | |
| 224.0 | 16.0 | 1277.3 | | | |
| 225.0 | 16.0 | 1279.9 | | | |
| 226.0 | 16.0 | 1282.4 | | | |
| 227.0 | 16.0 | 1284.3 | | | |
| 228.0 | 16.0 | 1286.6 | | | |
| 229.0 | 16.0 | 1288.8 | | | |
| 230.0 | 16.0 | 1291.8 | | | |
| 231.0 | 16.0 | 1295.0 | | | |

THE UNIVERSITY FOUNDATION

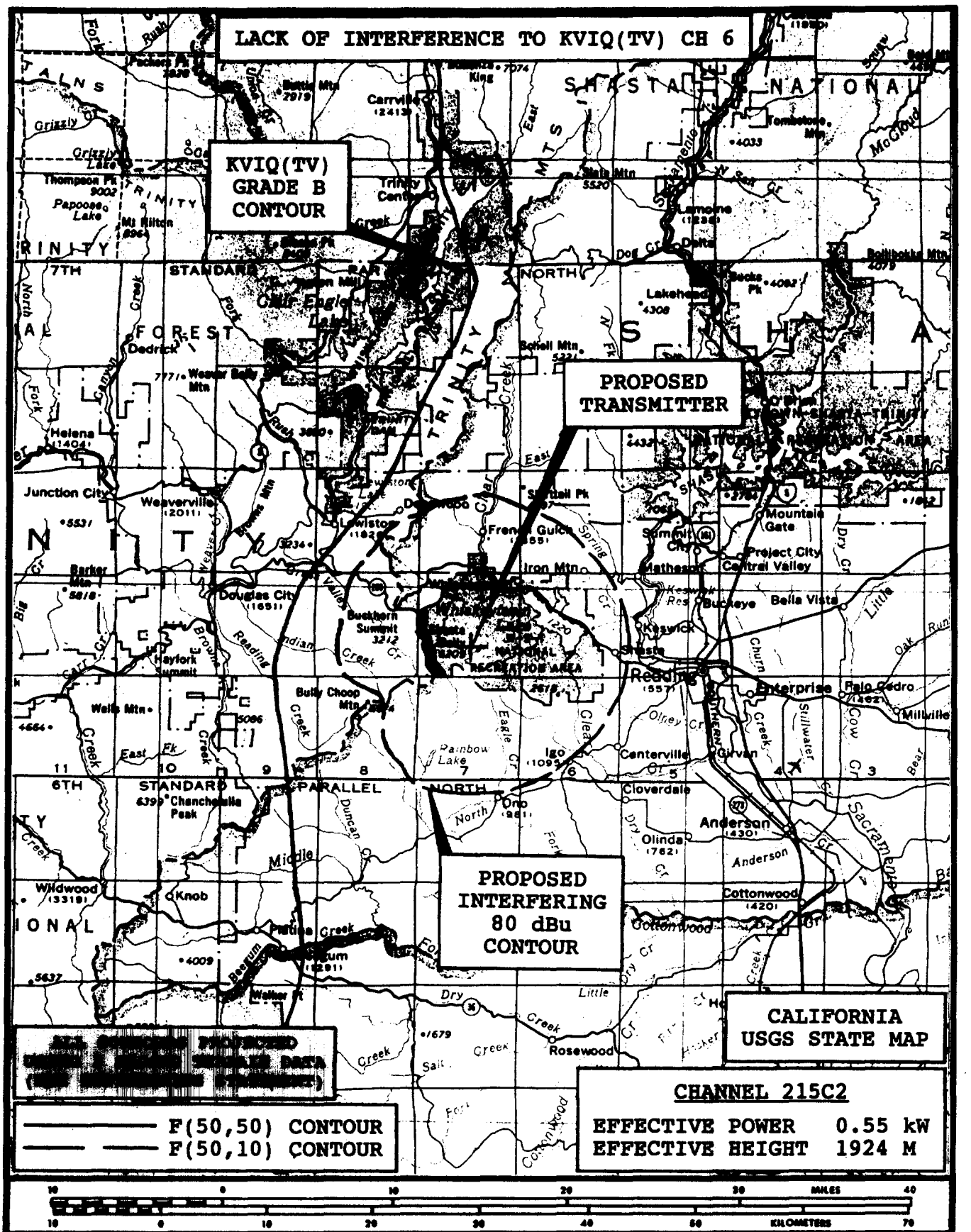
REDDING, CALIFORNIA

KSKF CH 215C1 KLAMATH FALLS, OR AUTHORIZED OPERATION
FILE NO. BMPED-880415MC 2.0 KW ERP ND AT 2004 METERS AMSL

DISTANCES TO CONTOURS (Kilometers): USING 3 SECOND TERRAIN DATA

Frequency: 90.9000 MHz
Coordinates: N 42 5 50 W 121 37 59
F(50,50) Curves Number of Contours: 1

| AZ (degs) | HAAT (m) | ERP (kW) | 60.0 (dBu) |
|---|---|---|---|
| 180.0 | 736 | 2.0000 | 56.0 |
| 181.0 | 734 | 2.0000 | 55.9 |
| 182.0 | 734 | 2.0000 | 55.9 |
| 183.0 | 733 | 2.0000 | 55.9 |
| 184.0 | 733 | 2.0000 | 55.9 |
| 185.0 | 733 | 2.0000 | 55.9 |
| 186.0 | 732 | 2.0000 | 55.9 |
| 187.0 | 733 | 2.0000 | 55.9 |
| 188.0 | 733 | 2.0000 | 55.9 |
| 189.0 | 732 | 2.0000 | 55.9 |
| 190.0 | 734 | 2.0000 | 55.9 |
| 191.0 | 735 | 2.0000 | 56.0 |
| 192.0 | 737 | 2.0000 | 56.0 |
| 193.0 | 738 | 2.0000 | 56.1 |
| 194.0 | 738 | 2.0000 | 56.1 |
| 195.0 | 737 | 2.0000 | 56.0 |
| 196.0 | 736 | 2.0000 | 56.0 |
| 197.0 | 736 | 2.0000 | 56.0 |
| 198.0 | 736 | 2.0000 | 56.0 |
| 199.0 | 735 | 2.0000 | 56.0 |
| 200.0 | 732 | 2.0000 | 55.9 |
| 201.0 | 731 | 2.0000 | 55.9 |
| 202.0 | 732 | 2.0000 | 55.9 |
| 203.0 | 734 | 2.0000 | 55.9 |
| 204.0 | 736 | 2.0000 | 56.0 |
| 205.0 | 737 | 2.0000 | 56.0 |
| 206.0 | 738 | 2.0000 | 56.1 |
| 207.0 | 739 | 2.0000 | 56.1 |
| 208.0 | 739 | 2.0000 | 56.1 |
| 209.0 | 738 | 2.0000 | 56.1 |
| 210.0 | 738 | 2.0000 | 56.0 |
| 211.0 | 736 | 2.0000 | 56.0 |
| 212.0 | 736 | 2.0000 | 56.0 |
| 213.0 | 735 | 2.0000 | 56.0 |
| 214.0 | 735 | 2.0000 | 56.0 |
| 215.0 | 735 | 2.0000 | 56.0 |
| 216.0 | 735 | 2.0000 | 56.0 |
| 217.0 | 735 | 2.0000 | 56.0 |
| 218.0 | 734 | 2.0000 | 55.9 |
| 219.0 | 733 | 2.0000 | 55.9 |
| 220.0 | 732 | 2.0000 | 55.9 |
| 221.0 | 731 | 2.0000 | 55.8 |
| 222.0 | 730 | 2.0000 | 55.8 |
| 223.0 | 728 | 2.0000 | 55.8 |
| 224.0 | 727 | 2.0000 | 55.7 |
| 225.0 | 724 | 2.0000 | 55.6 |
| 226.0 | 722 | 2.0000 | 55.5 |
| 227.0 | 720 | 2.0000 | 55.5 |
| 228.0 | 717 | 2.0000 | 55.4 |
| 229.0 | 715 | 2.0000 | 55.3 |
| 230.0 | 712 | 2.0000 | 55.2 |
| 231.0 | 709 | 2.0000 | 55.1 |
| 232.0 | 705 | 2.0000 | 55.0 |
| 233.0 | 704 | 2.0000 | 55.0 |
| 234.0 | 703 | 2.0000 | 54.9 |
| 235.0 | 703 | 2.0000 | 54.9 |
| 236.0 | 703 | 2.0000 | 55.0 |
| 237.0 | 704 | 2.0000 | 55.0 |
| 238.0 | 704 | 2.0000 | 55.0 |
| 239.0 | 704 | 2.0000 | 55.0 |
| 240.0 | 705 | 2.0000 | 55.0 |

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920306.1 FIGURE 6